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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,961	10/04/2004	Ernst Topf	304-838	1013
30448	7590	12/13/2007		
AKERMAN SENTERFITT P.O. BOX 3188 WEST PALM BEACH, FL 33402-3188			EXAMINER HOWELL, DANIEL W	
			ART UNIT 3722	PAPER NUMBER
			MAIL DATE 12/13/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/509,961	Applicant(s) TOPF, ERNST	
	Examiner Daniel W. Howell	Art Unit 3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 September 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 13 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 15-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

1. Applicant's election without traverse of Species I in the reply filed on 9-21-07 is acknowledged. Applicant stated that claims 1-13 and 15-20 read on Species I. Claim 13 is deemed to not read on figures 11-12, as it includes limitations not shown in those figures (specifically, the "half a long oval"). As will be discussed below, claims 15 and 16 are indefinite, such that their scopes are not certain, but they will be examined.

2. It is noted that Applicant effectively provided no response to the request for information under 37 CFR 1.105. As stated in the requirement, several of the tools of claims 9-16 and figures 11-15 appear to have been known in the prior art for several decades. For example, the features of claims 9-11 are disclosed by the references to Ells, Johnson '174, Holmes, Johnson '541, and Johnson '223, all of which were published in the 1800s. The Barker et al reference used in the rejection below was published 27 years ago. The prior art has thousands of drill bits with the curvatures as set forth in claims 9 and 10, and there are probably references other than Barker et al which show the features of claims 11 and 12. The request for information was straightforward: did Applicant buy the drill bit of claims 9-16 off the shelf, such that it was already in existence as a prior art tool? Applicant has questioned the relevance of the requirement, saying "it is not understood how this is relevant to patentability." The clear answer to that is because the subject matter was being claimed. Applicant further argues that these claims depend from claim 1. Such a statement ignores the possibility that claim 1 would have been rejected under art. The PTO search files contain about 5000 references directed toward the topic of coolant channels in drill bits. The only realistic way to search those references is to look at them one by one, drawing by drawing. The examiner finally found the limitation of claim 12 at about the five hour mark of looking through those 5000 references for that sole feature. While

there certainly is the possibility that Applicant did conduct research on the subject matter of claim 12 explicitly for this invention/application in the absence of knowledge of any similar device, letting the examiner know in advance if Applicant knew if claim 12 (and all of claims 9-11) existed in the prior art or not could have saved an awful lot of effort.

3. Claims 1-12 and 15-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. On line 2 of claim 1, the phrase "particularly a deep drilling tool" does not make it clear if this feature is present or not. On line 4 of claim 6, the two instances of "optionally" do not make it clear if this structure is present or not. On line 5 of claim 12, the word "preferably" does not make it clear if the structure is present or not. In claim 15, it is not clear in what sense the chip space "is shaped in accordance" with the side wall and/or blade direction. The appearance of the chip space should be clearly set forth. Claim 16 should state in what sense the shape "corresponds to the chip spaces." On line 4 of claim 20, the word "preferably" does not make it clear if this structure is present or not.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 4, 7, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Soviet 569401. The deep drilling tool has a first channel for a toxic coolant, a second channel 3 for a non-toxic coolant, the two coolants mixing at the cutting end of the tool. Chips and coolant are removed through central channel 5. Considering that the toxic and non-toxic coolants are

different, and that they are fed through different channels, then it is considered to be inherent that they "are associated with independent lubricant supply devices" and pumps, as otherwise there would be no way to supply both of the coolants.

6. Claims 1, 2, 3, 4, 6, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Soviet 854608. The figure shows two radial feed inlets on spindle 8. The left feed inlet feeds coolant to a channel 7. The right feed inlet feeds coolant to a channel 3. Note cutters 4. The chips are removed through the central channel. Regarding claim 3, the two feed inlets can be used to increase cooling pressure in case of a blockage.

7. Claims 1, 2, 3, 4, 6-8, 17, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Soviet 1148721. Drilling tool 1 is held on a spindle and has radial coolant infeed channels a and 13, f, and channel b for removal of the chips. A first pump 15 supplies coolant to channel a, and some of the fluid is diverted to a piston 18 which serves to feed coolant from a reservoir 17. Thus, there are two pumps 15 and 18. Regarding claim 3, the two feed inlets can be used to increase cooling pressure in case of a blockage. Numeral 12 represents a feed device which permits rotation of the tool within.

8. Claims 1, 2, 3, 4, 6, 7, 8, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Wheetley (5006021). Drill bit 16 has two supply channels 62, 63, and two flutes 59, 60. These channels "are associated" with two independent cooling lubricant supply devices. For the first supply device, nitrogen from source 36 is fed to valve 40, to union 42, through channels 20, 23, 32 in spindle drawbar, and 56, and finally to channels 62, 63. For the second supply device, lubricant from reservoir 43 flows through pump 44 to union 42, and through the same lines 20,

23, 32, 56. Sources 36 and 43 constitute independent supply devices. Regarding claim 2, pump 44 and valve 40 will provide the desired volume of flows. Note swivel/rotary duct 18.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-4, 8-12, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Dell (4529340) in view of Barker et al (4137002). Barker shows a first pump system 10, 12, 13 for supplying coolant to a drill bit and a second pump 20, 22, 23, for supplying coolant at a pressure greater than the first system. O'Dell discusses removing blockages with his coolant flows. As stated at column 3, lines 40+, the coolant is supplied to a conventional drill bit having fluid passageways. Barker et al shows such a conventional bit. The bit has two cutting edges, two flutes, and two coolant channels 58, 60. As seen from figures 2 and 3, the flutes 36, 38, have rounded side walls beginning at points 44, 46, and having radii 76, 78, the rounded side wall blending into the cutting edges 80, 82. Note that the cross sections for figures 2 and 3 are taken at axially spaces along the tool, such that they disclose the limitations of claim 10. To see the feature of claim 11, note the plane 54 in figure 3. Points 44 and 46 represent the circumferentially rearward points of guide zones/trailing margins. It is considered to have been obvious to have placed the bit of Barker et al in the spindle of O'Dell as it is a conventional tool such as that mentioned at column 3 of O'Dell. Note that the channels 58, 60, of Barker et al will be "associated with" independent supplies of coolant from pumps 10 and 20, and that the pumps "are connected to the channels."

11. Claims 5, 18, and 19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12. Any inquiry concerning the content of this communication from the examiner should be directed to Daniel Howell, whose telephone number is 571-272-4478. The examiner's office hours are typically about 10 am until 6:30 pm, Monday through Friday. The examiner's supervisor, Monica Carter, may be reached at 571-272-4475.

In order to reduce pendency and avoid potential delays, Group 3720 is encouraging FAXing of responses to Office actions directly into the Group at FAX number to 571-273-8300. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a USPTO deposit account. Please identify Examiner Daniel Howell of Art Unit 3722 at the top of your cover sheet.



Daniel W. Howell  
Primary Examiner  
Art Unit 3722